

PATENT SPECIFICATION



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COMPLETE SPECIFICATION.

Improvements in and relating to Water Current Motors.

I, JOHANN JOSEPH REBMAN, a citizen of the United States of America, of 220, North Peak Street, Dallas County, Dallas, Texas, in the United States of America, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to improvements in water current motors of the kind embodying a number of pontoons or the like floating bodies connected together in spaced relation, and adapted to be anchored in a river or running stream, the pontoons serving to carry between them, suitable water wheels.

In one known form of water current motor of this kind, in which the water wheels were all aligned one behind the other between pairs of laterally stayed punts so connected as to allow of slight independent movements, it was proposed to support the shafts of the water wheels in bearings so mounted in upstanding frames carried by the punts, as to be vertically adjustable by means of screws for the purpose of varying the dip of the wheels; while in another known form wherein the floating bodies were stayed side by side in spaced relation with the water wheels alternating therewith, and utilised to drive a dynamo through suitable gearing, it was suggested that each wheel or pair of wheels might be provided with a separate length of shafting, and that each wheel or shaft might operate a separate dynamo carried by separate pontoons.

According to the present invention I provide a water current motor comprising a number of pontoons arranged side by side in spaced relation with water wheels arranged for rotation in the spaces between

the pontoons, and wherein the shafts of the water wheels are mounted in vertically adjustable bearings fitted in the facing sides of adjacent pontoons.

According to the invention moreover the shafts of the water wheels are so arranged in their bearings, as to enable additional sections to be readily connected.

The invention also comprises the particular construction combination and arrangement of parts as hereinafter described.

A water current motor constructed in accordance with the invention is shown by way of example in the accompanying drawings in which,

Fig. 1 is a perspective view of a motor embodying the invention.

Fig. 2 is a cross-sectional view of the same, and

Fig. 3 is a detail of one of the take-ups for the water wheel shafts.

In the drawing, the numeral 1 designates an elongated boat or pontoon. On each side the pontoons, are take-up frames 2 which are mounted in slots. In each frame, a slide plate 3 is mounted and swiveled on the lower end of a vertical take-up screw 4 mounted in the top of the frame. Each screw extends above the frame and has a crank handle 5 thereon. In each slide plate 3, a bearing block 6 is pivoted. The pontoons are arranged in pairs, each pair constituting a section.

Drive shafts 7 are supported in the blocks 6. Each shaft extends from the take-up of one pontoon to the adjacent take-up of the next pontoon, each of said pontoons having its take-ups on its outer side free to receive the shafts of adjacent pontoons. By this arrangement the last pontoon added has idle take-ups ready to

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receive the drive shafts of the next pontoon when the latter is added.

In each pair of pontoons, the drive shafts 7 extend through the bearings 6 of one pontoon and project into the pontoon for a substantial distance, while the opposite ends of these shafts extend into the bearings 6 of the other pontoon, and do not project into the pontoon.

On each drive shaft between the pontoons, a water wheel 8 is fastened so as to revolve the shaft. The depth at which the wheels revolve in the water is controlled by adjusting the blocks 6 by means of the screws 4. Each shaft 7 has one end projecting into a pontoon and carries a pulley 9 revolved by the shaft in the pontoon. Each pulley 9 drives by means of a belt 10, a pulley 11 on the shaft of an electric generator 12, also mounted in the pontoon. The pontoons have bulkheads 15 separating each into compartments.

Upright trusses 13 bridge the pontoons transversely and are securely fastened thereto so that all of the pontoons are tied together and must float in unison. A guard 14 is fastened across the bows of the pontoons to keep trash from entering the same.

The pontoons are anchored in a stream with a current, the bows against the current or "upstream". The water wheels 8 are raised or lowered by means of the take-up handles 5 and screws 4, to the proper depth. The water passing between the bores revolves the wheels which in turn revolve the pulleys 9. The pulleys 9 drive the generators and the electrical current thus generated is conducted to a suitable point of utilization.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A water current motor comprising a number of pontoons secured together side by side in spaced relation, with water wheels arranged for rotation in the spaces between the pontoons, and wherein the shafts of the water wheels are mounted in vertically adjustable bearings fitted in the facing sides of adjacent pontoons substantially as described.

2. A water current motor according to Claim 1, wherein the bearings are pivotally mounted in slide plates, which are arranged for vertical sliding movement in frames fitted in slots formed in the

sides of the pontoons substantially as described.

3. A water current motor according to Claim 1 or 2 wherein the shaft of each water wheel extends with the pontoon on one side, but terminates at, or substantially at the inner face of the wall of the pontoon on the other side, the extended ends of the shafts corresponding, for the purpose of enabling additional sections to be readily added substantially as hereinbefore described.

4. A water current motor according to Claim 3, wherein the ends of the shafts of the water wheels extending into the pontoons are provided with pulleys which are connected by driving belts or the like to dynamos for generating electricity substantially as hereinbefore described.

5. In a water current motor as claimed in Claims 1, 2, 3, or 4 the provision of trusses arranged to bridge the pontoons transversely substantially as hereinbefore described.

6. In a water current motor as claimed in Claims 1, 2, 3, 4, or 5 the provision of a guard for the prevention of undesirable matter entering the spaces between the pontoons substantially as hereinbefore described.

7. The constructional form of water current motor comprising a series of pontoons arranged and secured side by side in spaced relation with water wheels arranged for rotation in the spaces between the pontoons, slots formed in the facing sides of the pontoons and fitted with frames to receive slide plates carrying bearings for the shafts of the water wheels, which shafts project at corresponding ends each into one of the pair of pontoons between which it is carried, screws connected to the slide plates to enable a vertical sliding movement to be imparted thereto, for the purpose of adjusting the dip of the water wheels, and dynamos mounted, one in each pontoon, and adapted to be driven by belts from pulleys disposed in the pontoons, and secured on the water wheel shafts at the ends which project into the pontoons substantially as hereinbefore described.

8. The water current motor hereinbefore described and illustrated by the accompanying drawings.

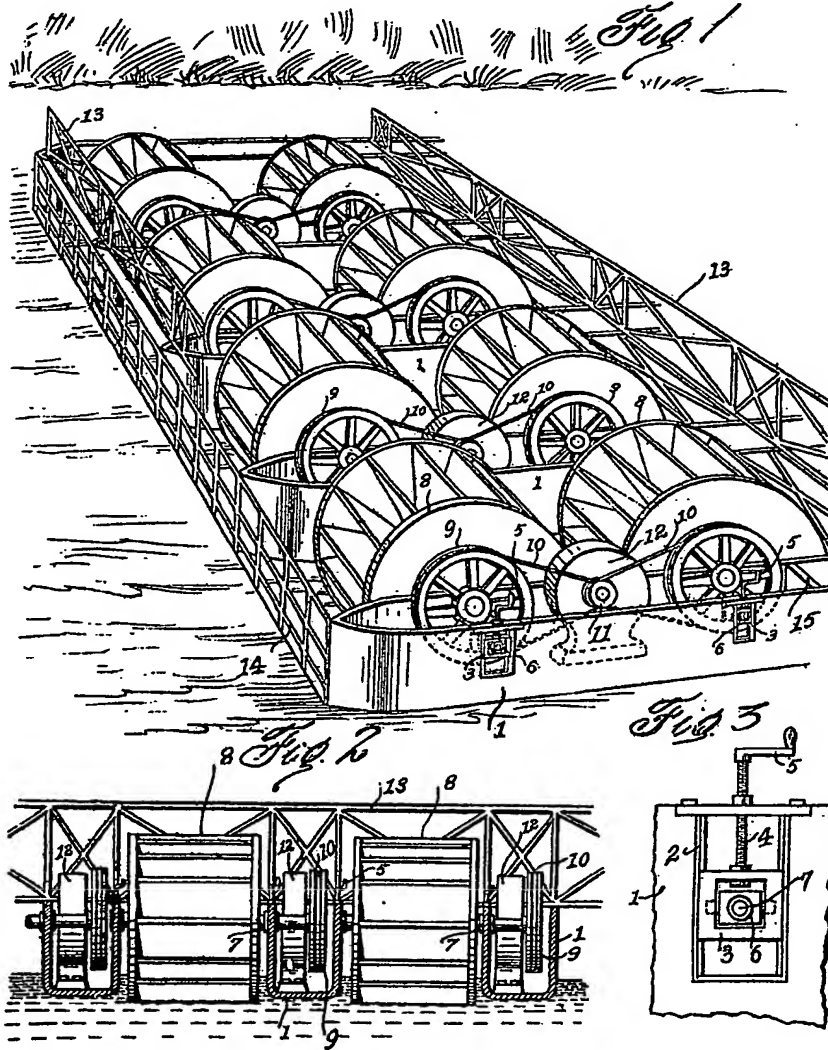
Dated this 6th day of July, 1920.

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[This Drawing is a reproduction of the Original on a reduced scale.]



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